OMB Approval 2700-0042

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		12

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
5	Feb 20, 2009		

6. ISSUED BY CODE

NASA Office of Procurement/ DA00
John C. Stennis Space Center
Stennis Space Center, MS 39529-6000
Jason Edge (228) 688-2346

7. ADMINISTERED BY *(If other than Item 6)* CODE

Same as block #6

8. NAME AND ADDRESS OF CONTRACTOR *(No. Street, county, State and ZIP: Code)*

TO ALL PROSPECTIVE BIDDERS

CODE FACILITY CODE

(✓)	
	9A. AMENDMENT OF SOLICITATION NO. NNS09272021R
X	9B. DATED *(SEE ITEM 11)* November 21, 2008
	10A. MODIFICATION OF CONTRACT/ORDER NO.
	10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ___ is extended, X is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning one (1) copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATA SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and data specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

N/A

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, is required to sign this document and return ___ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

SEE PAGE 2 of 12

Except at provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY *(Signature of Contracting Officer)*	

The purpose of this amendment is to add new and revised data sheets, add some general arrangement drawings of the GFE provided Vacuum jacketed piping, add a reference drawing showing piping interface details delete a portion of work, and to answer contractor questions. The data sheets and drawings listed below are on a CDROM labeled Amendment #5. The CDROM was mailed to everyone who received the original CDROM.

1. As identified on the CDROM labeled amendment #5, the following (8) data sheet files are hereby added to the project:

CHV-19A3733-GN, 34-GN Data Sheet
FCV-19A3095-GN Data Sheet
MV-19A3094-GN Data Sheet
MV-19A3098-GN Data Sheet
MV-19A3146-GN Data Sheet
PF-19A3130-GN Data Sheet
RD-19A3735-GN Data Sheet
RO-19A5239-GN Data Sheet

2. As identified on the CDROM labeled amendment #5, the data sheet for the Flex Hose Designator FH-19A1294-LO, FH-19A1288-LO is hereby revised with the "Revised Flex Hose Data Sheet" file contained on the CD ROM. (This 1 data sheet covers both hoses)

3. The following reference drawing is incorporated into the RFP and included on the CDROM labeled Amendment #5: Drawing 90937-C-114 RA (for Reference only) containing one drawing and shows piping interface details.

4. The following reference drawings are incorporated into the RFP and included on the CDROM labeled Amendment #5: General Arrangement drawings BC-02052-5000 Sheets 1 of 12 through Sheets 12 of 12 (Total 12 sheets). These will show the general arrangement of the GFE provided vacuum jacketed piping that the successful contractor shall install.

5. The following drawings FCR-005 E1-Layout1, FCR-005 E2-Layout1, and FCR-005 E3-Layout1, are sketches of work that was originally to be required from the successful contractor and are hereby being deleted and will no longer be required from the successful contractor.

6. The following reference drawing which was omitted from the original CD is incorporated into the RFP and included on the CDROM labeled Amendment #5: Drawing PSK-A3-9201 is hereby provided on the CD as file "PSK-9201_A".

7. The following questions were received, and responses are hereby provided as follows:

Question 1: Drawing 90937-C-280, Note 1, references Drawing 90937-C-200. This drawing was not included in our set of drawings. Please provide if available.

Answer 1: Drawing was included in Amendment 4

Question 2: Please confirm any insulation requirements on this project.

Answer 2: No insulation requirements currently in this scope of work

Question 3: The P&ID for the IPA and IW have a Solenoid valve in each Skid branch. However, the P&ID for the LOX does not show a solenoid valve in each branch, nor is there a data sheet provided in the Contract Documents for them, but the plans shows a solenoid. Are these solenoids to be provided under this task order or be provided under another task order? If they are to be provided under this task order, please provide the specification data sheet for the required valves.

Answer 3: The plan view drawings are incorrect. The following solenoid valves located in the LO lines are not to be included in your proposal:

SV-19A1505-LO
SV-19A1507-LO
SV-19A1509-LO
SV-19A1468-LO
SV-19A1470-LO
SV-19A1472-LO
SV-19A1430-LO
SV-19A1432-LO
SV-19A1434-LO

Question 4: Drawings 90937-S-971 & 973 show concrete foundations for electrical panels. Are these foundations in this scope of work? If so, please provide foundation sizes and rebar details.

Answer 4: The concrete foundation on Drawing 90937-S971 will already be in place. The concrete foundation on Drawing 90937-S-973 is included in this scope of work. Details can be found on Drawing 90937-E-611

Question 5: Is PHPK Technologies an approved supplier?

Answer 5: PHPK products will be acceptable as long as they satisfy the requirements stated on the Data sheets

Question 6: I am quoting various contractors on relief valves on the A-3 project. There is on pages 203, 210, 234, 244, and 253 of 349 of the A-3 Mechanical Contractor Construction Package Rev. 2 or labeled Rev A, Dated January 30th of this year a cleaning level 3X and/or 3XX. I need clarification or direction concerning this cleaning level as I am not familiar with these levels and they are not listed in the copy of the cleaning specification SSTD-8070-0089-FLUIDS Rev B Dated July 2004 that I have a copy and am using as a reference.

Answer 6: This standard is in the process of being revised, it does not currently have the 3X or 3XX designation, for the purpose of this solicitation follow these requirements.

1.) Cleanliness Level 3x is the same as Cleanliness Level 2x in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

2.) Cleanliness Level 3xx is the same as Cleanliness Level 2xx in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

Question 7: There are purge panels that we supply that do not show up on the piping plan drawings. Please provide locations for the following:

- LH Sample Panel on P&ID 1001
- LO Sample Panel on P&ID 2001
- CSG LO Units 6-9 GN Purge Panel on P&ID 3006
- CSG IPA and IW Units 6-9 GN Purge Panel on P&ID 3006
- CSG LO Units 1-5 GN Purge Panel on P&ID 3006
- CSG IPA and IW Units 1-5 GN Purge Panel on P&ID 3006

Answer 7:

- LH Sample Panel on P&ID 1001,
  This panel is located on the bottom of the LH tank above level 8.9
- LO Sample Panel on P&ID 2001
  This panel is located on the bottom of the LO tank above level 8.9
- CSG LO Units 6-9 GN Purge Panel on P&ID 3006
  This panel is located on the West end of V-745-GN
- CSG IPA and IW Units 6-9 GN Purge Panel on P&ID 3006
  This panel is located on the West end of V-746-GN
- CSG LO Units 1-5 GN Purge Panel on P&ID 3006
  This panel is located on the West end of V-747-GN
- CSG IPA and IW Units 1-5 GN Purge Panel on P&ID 3006
  This panel is located on the West end of V-748-GN

Question 8: There are 2 GFE panels that do not show up on the piping plan drawings. Please provide locations for the following:

- Tank Press Panel on P&ID 1001
- Tank Press Panel on P&ID 2001

Answer 8:

- Tank Press Panel on P&ID 1001
  This panel is located on the bottom of the LH tank above level 8.9
- Tank Press Panel on P&ID 2001
  This panel is located on the bottom of the LO tank above level 8.9

Question 9: Reference Appendix A Data Shts. (1-349), SSTD- 8070-0089-Fluids, and GFE List Attachement H: Several components in the data sheets are specified to be cleaned to level 3X or 3XX. (A few examples are shown on data sheets 203, 210, 234, 244, and 253). Please provide desired cleaning levels in accordance with the SSTD-8070-0089-Fluids specification.

Answer 9: This standard is in the process of being revised, it does not currently have the 3X or 3XX designation. For the purpose of this solicitation follow these requirements.

1.) Cleanliness Level 3x is the same as Cleanliness Level 2x in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

2.) Cleanliness Level 3xx is the same as Cleanliness Level 2xx in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

Question 10: Reference Appendix A Data Shts. (1-349), P&ID PSK-3005, & Dwg. P-257: The P&ID drawing and data sheet shows relief valve PORV-19A3149 on tank #V-561. Drawing P-257 identifies this relief valve as PORV-19A3419. Please verify that PORV-19A3149 is the correct valve number as shown on the data sheet 253.

Answer 10: PORV-19A3149 is the correct number. PORV-19A3419 on drawing P-257 is a typo

Question 11: Reference Appendix A Data Shts. (1-349), P&ID PSK-3005, & Dwg. P-258 : The P&ID drawing PSK-3005 and data sheet 257 shows a 4" butterfly valve as VA-19A3160 at tank #V-558. Drawing P-257 identifies this butterfly valve as VA-19A1230. Please verify that VA-19A-3160 is the correct valve number as shown on the data sheet 257.

Answer 11: VA-19A3160 is the correct number. VA-1230 on drawing P-257 is a typo

Question 12: Reference 90937-S-948 & 949: Pipe supports PS-19C and PS-20C are detailed on sheet S-948 and supports PS-23A and PS-23B are detailed on sheet S-949. It does not appear that these supports are located on the layout drawings. Please provide locations and quantities if required.

Answer 12:
The current revisions of drawings S-948 and S-949 are revision A.
No PS-19C or PS-20C supports are shown on S-948 REV A.
No PS-23B is shown on S-949 REV A
PS-23A is shown on dwg S-918 REV A, zone C-10

Question 13: Reference 200GT-GM04 Sec.01 11 00.00 40 par. 1.8.1 Drawing 90937-P-200 through P-227: The paragraph referenced states that the contractor will furnish installation for the GFE material as shown in table 1A. (See item number 15 described as Cryogenic VJ Pipe / 10" LH-19A1005-VJ2.) The referenced drawings show a 10" LH-19A1005-VJ2 line as "by others".

1) Please verify if the 750' of 10" VJ piping is to be installed by this contract.
2) If VJ piping is to be installed with this contract, please provide the fabricated spool connection details and quantities of field joints.

Answer 13: General Arrangement drawings BC-02052-5000 Sheets 1 of 12 through Sheets 12 of 12 (Total 12 sheets) are provided on the CD (See item 4 above.) These will show the general arrangement of the GFE provided vacuum jacketed piping that the successful contractor shall install.

Question 14: Reference 110GT-GM09 – BCK3, 110GT-GM05 –BCK4, and Appendix A Data Shts. (1-349) : Many components shown in the Appendix A Data sheets call for G-Con type connections which are now manufactured by Grayloc Products. The referenced high pressure pipe specifications BCK3 & BCK4 specifies R-Con or T-Con style connections which are now a special order and will not mate with G-Con connected components as specified. Suggest utilizing G-Con or Grayloc style connections in these two specifications to match specified component connections and maintain connection style consistency throughout the system.

Answer 14: G-con type connections or equal shall be used.

Question 15: Reference PSK-A3-3502 : The LH and LO master facility panels show ½" 250 PSI GN purges to dock firex and ¾" 120 PSI GN to dock control valve actuation leaving the panels with no drawing continuation shown. Please confirm these supplies are not in contract.

Answer 15: The purges and valve actuation lines are included as part of the work. The ¾" 120 psig actuation should be routed to all actuated valves in the LH and LH docks. See PSK-1000 and PSK-2000 for number of actuated valves in each area.

Question 16: Reference 90937-S-911 and 90937–P-201: This drawing does not detail supports required for the installation of the vacuum jacketed piping designated as 8" LH-19A1002-VJ2, 8" LH-19A1004-VJ2 and 4" LH-19A1001-VJ2 and shown on drawing 90937-P-201. Please provide details for these supports or verify supports to be furnished and installed by separate contract.

Answer 16: The successful offeror is responsible for the design and layout for this work as specified in Specification Number 11CGT-GM02 which is part of the original package. All pipe supports for this piping system will be installed by the successful contractor as part of this contract. Both of these tasks (fabricate VJ pipe and install VJ pipe) are part of this contract

Question 17: Reference PSK 7100, 90937–P-303 Det. 4 and Appendix A data sheet 346: Valves VA-19A1494-IPA and VA-19A1519-IPA are shown as 1 ½ " on P-303, but are called out as 3" on data sheet 346. Please verify 3" is the correct size and increasers will be required for size adaptation.

Answer 17: The valves VA-19A1494-IPA and VA-19A1519-IPA are correctly shown as 1-1/2" valves on P-303 (and PSK-7100). The third digit in the model number for data sheet 346, FOR THESE TWO VALVES ONLY will be changed from "8" to "5" to indicate a 1-1/2" valve.

Question 18: Reference Appendix A data sheets 278 and 302: To prepare cost quotations, the manufacturer has requested flow rates, operating pressures and temperature ratings for the flow meters specified on sheets 278 and 302. Please provide requested information.

Answer 18: Design Pressures and Temperature ranges are provided on data sheets. Flow rates are as follows: The maximum flow rate for the fluid identified on data sheet 278 (Nitrogen) is 15 lb/sec, the maximum flow rate for the fluid identified on data sheet 302 (Helium) is 0.0004 lb/sec

Question 19: Reference Appendix A data sheets 7, 8, 9, 36,103, 119,163,177, and 191: Various data sheets stipulate flex hoses with MS33649 inlet and outlet connection styles. These are normally furnished with 37 degree female swivel nut end connections which have the same thread sizes as specified in MS33649. Please verify 37 degree female swivel nut connections are acceptable.

Answer 19: 37° Flare female swivel nut end connections are acceptable.

Question 20: Reference Appendix A data sheet 302: The manufacturer advises that 2GR14 connections will be required on this component in lieu of GR20 to meet the design pressure of 4500 PSIG. Please concur.

Answer 20: 2GR14 connections are required. We concur with the manufacturer's recommendation

Question 21: Drawing PSK-A3-2001-FAC, references Drawing PSK-A3-9201. This drawing was not included in our set of drawings. Please provide if available.

Answer 21: Drawing PSK-A3-9201 is provided on the CD as file "PSK-9201_A" (See Item 6 Above).

Question 22: Several of the contractors I have spoken with regarding the A3 General Construction bid have requested confirmation from NASA that items specified as Eden Cryogenics can be substituted with PHPK Technologies equal items. Can you please send me something or post something that will allow the PHPK vacuum insulated piping and components to be view as "equal" to the Eden Cryogenic piping and components?

Answer 22: PHPK products will be acceptable if they satisfy the requirements stated on the data sheets

Question 23: Drawing PSK-A3-3503-FAC adds the following components: CHV 19A3733,CHV 19A3734,CHV 19A3095,FCV 19A3146,MV 19A3094,MV 19A3098,PF 19A3130,R0 19A5239,RD 19A3735. We can not find any data sheets for these components. We asked this before and was told they were in the package. We have carefully gone through everything and still can not find them. Please give a little help as to where these are located.

Answer 23: Additional Data sheets are provided as stated in item 1 and 2 above.

Question 24: Drawing PSK-A3-7100-FAC calls for Clean Level 3XX. NASA Standard SSTD-8070-0089 does not define this level. It also calls for a Clean Level 3X. Neither of these levels currently exist in your standard. Please provide the criteria for these clean levels.

Answer 24: Answer: This standard is in the process of being revised, it does not currently have the 3X or 3XX designation. For the purpose of this solicitation follow these requirements.

1.) Cleanliness Level 3x is the same as Cleanliness Level 2x in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

2.) Cleanliness Level 3xx is the same as Cleanliness Level 2xx in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

Question 25: Per Amendment 3 the vacuum jacketed pipe from the barge dock to the run tank is to be installed. However, there are no pipe supports for this pipe shown on any of the drawings. Also, this pipe is government furnished. Are there any field closures required in this installation? If so, where do they occur?

Answer 25: General Arrangement drawings BC-02052-5000 Sheets 1 of 12 through Sheets 12 of 12 (Total 12 sheets) are provided with this Amendment (See Item 4 above). These will show the general arrangement of the GFE provided vacuum jacketed piping that the successful contractor shall install.

Question 26: Reference 200GT-GM04, 01 11 00.0040, Page 9 and Attachment A to the Solicitation; The referenced Specification list Item 17, LH Run Tank and Item 18. Lox Run Tank as GFE' "set on top of test stand by others." The list of GFE, Attachment H, does not include these tanks. We believe it is reasonable to assume that there is no work associated with the run tanks required by the solicitation. This includes, unloading, handling, moving, rigging, etc. of these (2) tanks. Lacking a response, we will prepare our bid accordingly.

Answer 26: Your assumption is correct there is no work associated with the run tanks required by this solicitation.

Question 27: Reference 200GT-GM04, 40 05 13, Page 8, Paragraph 2.6, Drawing 9093T, P-322 ; The referenced Specification states that the Contractor's "scope of supply" shall include a total of 700 instrument bosses as listed. Additional instrument bosses are shown on the P & ID drawings. We believe a reasonable solution is that the Contractor is to furnish these 700 instrument bosses per the details shown on P-322 in addition to what is shown on the P&ID drawings. Lacking a response otherwise, we will prepare our bid accordingly.

Answer 27: Your assumption is correct the Contractor is to furnish these 700 instrument bosses per the details shown on P-322 in addition to what is shown on the P&ID drawings.

Question 28: Drawing PSK-AS-1001-FAC and PSK-A3-1002-FAC ; Note 10 on PSK-1001 and Note 6 on PSK-1002 and PSK-1003 state that all components on the drawing except GFE are to be procured by the Contractor and that installation of all components and piping are not in contract. We believe it is reasonable to assume that this contract will "furnish only" components. Installation of all components and piping are not required by the solicitation. Lacking a response otherwise, we will prepare our bid accordingly.

Answer 28: Your assumptions are correct; the successful offeror shall procure and receive these components but not include any provisions for installation.

Question 29: 200-GT-GM04, Date Sheets 219, 220, 234, 244, 253 ; The 8' x 10" relieve valves specified in the referenced Data Sheets have carbon steel bodies. These valves are installed in stainless steel piping systems. We believe it is reasonable to assume that the valves will be provided with carbon steel bodies, as specified. Lacking a response otherwise, we will prepare our bid accordingly.

Answer 29: Please include in your cost components meeting the specifications identified in the latest data sheets (REV A) for each component (Part of Amendment 01). All of these data sheets are now at REV A.

Question 30: Drawing PSK-A3-2001-FAC and PSK-A3-1001-FAC ; The LO Sample Panel is shown on the "not in contract" side of the break line, per Note 11. The LH Sample Panel is shown in the "not in contract" area per Note 10. These panels are not listed as GFE. We believe a reasonable solution is to assume that these panels are to be furnished and installed by the Contractor. Lacking a response otherwise, we will prepare our bid accordingly.

Answer 30: Your assumption is incorrect. All components shown on the LO and LH sample panels on drawing PSK-2001-REV A and PSK-1001-REV A are to be provided by the successful offeror. Do not include any provision for fabrication and installation of these sample panels.

Question 31: 200GT-GM04 Data Sheets 262, 263, 264, 281 & 304 ; The Grove Regulators called out on Sheets 262, 263, 264, 281 and 304 shows part numbers that are no longer available. We believe a reasonable solution would be to utilize the manufacturer recommended part number substitute and connection sizes.

SHT	SPECIFIED PIN	RECOMMENDED PIN	CONNECTION SIZE
262	11128H081468	11127H018146A	1 ½" GR-14
263	11128H08149B	11128H08149A	1 ½" GR-14
264	11128H08148B	11127H08148A	2" GR-14
281	11167H08149B	11170H08149A	2" GR-14
304	11167H08146B	11167H08146A	2" GR-14

Answer 31: See REV A versions of these data sheets for updated part numbers (Included as part of Amendment 01).

Question 32: SK-A3-3006 FAC, P-225, P-226 : The drawings referenced show four GN Vessels tagged V-745-GN, V-746-GN, V-747-GN and V-748-GN. As these vessels do not show on any GFE list, we believe a reasonable solution would be that these tanks are not provided or installed with this solicitation.

Answer 32: See data sheet pg 272 for this information. These vessels **are** to be provided, received and installed by the successful offeror.

Question 33: 200GT-GM04 Data Sheets 23 and 24 ; Relief valves RV-19A1092-LH, RV-19A3407-LA and RV-19A3418-LH are shown to be manufactured by Anderson Greenwood. The part numbers given are for Flow-Safe. We believe a reasonable solution is using Flow-Safe as the manufacturer to match the part numbers.

Answer 33: See the REV A versions of these data sheets for updated part number clarifications. Your bid should be based on Anderson Greenwood, or equal, relief valves as noted on the REV A data sheets.

Question 34: 200GT-GM04 Sec. 01 11 00.00 40 par. 1.8 ; The paragraph referenced states that the GFE material will be delivered to the SSC Test Stand site for receipt and installation by the contractor. We believe a reasonable assumption would be that all the vessel delivery trans-port equipment will be available and adequate to deliver the equipment to the "onsite crane pick location" to be rigged, lifted, and placed in its final location without requiring any additional crane picks or onsite transport equipment.

Answer 34: The GFE vessels will be delivered to the A3 construction site by others. At that point, the GC will be required to lift the IPA (2 each) and water storage (9 each) vessels from the transportation vehicle and placed in its final location. The CSG Lox storage vessels (3 each) will have to be lifted from the transportation vehicles and placed on the ground (horizontally) where they will need to be cleaned prior to erection. The cleaning process will be performed by others and will last approximately 30 days. After cleaning, the GC will then be required to lift the vessels and place them in their final location.

Question 35: 200GT-GM04 Sec. 01 11 00.00 40 par. 1.8 & 1.8.1 ; The paragraphs referenced require the con-tractor to offload and place 14 heavy vertical tanks and 32 heavy horizontal tanks. The mobilization and demobilization cost of the required heavy lifting equipment is quite substantial. As it would most likely be unrealistic to assume that all the GFE vessels could be scheduled to arrive in an uninterrupted back-to-back delivery to support a one time heavy equipment mobilization, we believe a reason-able assumption would be to estimate (8) mobilizations and demobilizations of the heavy lifting equipment to support a possible coordinated delivery schedule of the vessels. This could equate to (4) mobilizations for the 14 vertical tanks and (4) mobilizations for the 32 horizontal tanks.

Answer 35: The IPA (2 each) and water storage (9 each) vessels currently on contract are scheduled to be delivered one at a time, approximately a month apart form each other. The CSG Lox storage vessels (3 each) are all scheduled to arrive together. We cannot guarantee (8) mobilizations and demobilizations will be adequate for the work.

Question 36: Specification Section 40 05 13, Part 3.6 states that "Precision cleaning shall be performed in accordance with SSTD-8070-0089-FLUIDS as indicated on the contract drawings. ALL piping and tubing shall be cleaned to a minimum level of 3X regardless of final cleaning level noted on the contract drawings". However, the table shown in this "FLUIDS" section does not show a "3X". Please provide if available.

Answer 36: Answer: This standard is in the process of being revised, it does not currently have the 3X or 3XX designation. For the purpose of this solicitation follow these requirements.

1.) Cleanliness Level 3x is the same as Cleanliness Level 2x in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

2.) Cleanliness Level 3xx is the same as Cleanliness Level 2xx in SSTD-8070-0089-FLUIDS less the requirements for dryness (dewpoint) analysis in Section 6.5.

Question 37: Reference drawings 90937-P-253 & 90937-PSK-A3-7100. Both drawings show a hydraulic pump designated as "P-19A1506-IPA". No data sheet is provided for this pump. Is this in the scope of work? If so, please provide if available.

Answer 37: The pump is to be included in the scope of work. Pump should be a Wilden Model # A8/SSSS/VT/VT, w/SST wetted parts, air chambers, center block and air valve, Viton diaphragms, valve balls & valve seat or equal.

Question 38: Drawings 90937-P-259, 260, and 261 all show a "CHV" in three separate locations each. Is this correct? Or should there be only one connection?

Answer 38: The drawings are correct as shown. The CHV noted on each drawing is a common check valve simultaneously serving multiple purge connections to the piping as indicated. There is only one check valve for each purge system, but the tubing downstream of the check valve is connected to multiple locations on the pipe.

Question 39: Reference Luminare Schedule, Tag F6, H.E. Williams Icetron lighting, Note 13. - H.E. Williams, currently, does not offer a UL approved Class 1 Div 2 ICETRON. The only alternatives that we can find, that match the Vibration and Class requirements are pendant style lights with ceiling mount adapters. Will this style light be suitable and, if so, will down facing reflector lens be acceptable for Note #16 (Vertical Cutoff Louver)?

Answer 39: No pendant style lights with ceiling mount adapters are not acceptable. The fixtures as specified have been confirmed by NASA to be UL listed, and meet the requirements, any or equal must also meet these requirement.

Question 40: Reference Luminare Schedule, Tag F1, HID Area Lighting Note 4 and dwg E-746, Typical Lighting Standard "P". Will the light poles be Aluminum or Stainless Steel?

Answer 40: Aluminum.

Question 41: Data Sheet #283 for component #PI-19A1906-GN, Pressure Rating states "20000 psig". Is this correct?

Answer 41: This is the correct pressure RATING for the component. We generally choose a gauge with a range that will provide for the operating pressure to be located in the middle 2/3 of the range. For the component in question, a gauge with a range of 0-10,000 psig is acceptable.

Question 42: Reference PSK-A3-1100-FAC, PSK-A3-1001-FAC, PSK-A3-1002-FAC, & PSK-A3-1003-FAC ; Drawing PSK-1100 shows 5 – GH purge lines which are partially located outside the flag note 6 "installation not in contract" boundaries. These 5 lines are continued on sheets PSK – 1001, 1002, & 1003 which also show these lines as "not in contract". Please confirm these 5 lines in their entirety are not in contract.

Answer 42: These five purge lines in their entirety are not in the scope of supply for this package.

Question 43: Reference PSK-A3-4001-FAC, PSK-A3-1001-FAC, PSK-A3-1002-FAC, & PSK-A3-1003-FAC ; Drawing PSK-4100 shows 7 – HE purge lines which are partially located outside the flag note 4 "installation not in contract" boundary. These 7 lines are continued on sheets PSK – 1001, 1002, & 1003 which also show these lines as "not in contract". Please confirm these 7 lines in their entirety are not in contract.

Answer 43: These seven purge lines plus Purge "P60" (from the Helium Master Facility Panel) in their entirety are not in the scope of supply for this package.

Question 44: Reference 90937–P-210, 90937 -C-114, & 90937-C-110; Flag note 7 on drawing P-210 refers to drawing C-114 for "details on piping interfaces". It does not appear that this drawing was furnished with the bid documents. Please provide piping interface details.

Answer 44: Drawing 90937-C-114 RA (for Reference only) containing one drawing and shows piping interface details is added to this solicitation under this amendment. (See Item 3 above.)

Question 45: Specification 200GT-GM04 Section 01 11 00.00 40 paragraghs 1.8, 1.8.1, and 1.8.2 ; Please verify that all government furnished material referenced in paragraphs 1.8, 1.8.1, 1.8.2 and listed in tables 1A and 1B will be furnished to the contractor or installed by the government in "cleaned and protected" conditions as applicable to SSTD-8070-0089-Fluids specifications or other specified system cleanliness level requirements. If not, please confirm that this effort is not required as part of this solicitation.

Answer 45: Cleaning of government furnished equipment is not to be provided by the successful offeror. Any components furnished to the contractor will be in "cleaned and protected" condition.

Question 46: Amendment No.3, Question No. 4, PSK-A3-3503-FAC, & Appendix A Data Sheets; The reply to amendment no. 3, question 4 states that "the data sheets for all other items on the test cell active ventilation system were included with the package"; implying that these new components are to be provided by the contractor. The data sheets do not include any of the new components shown on P&ID drawing PSK-3503 (which was just issued in amendment no. 3). Please provide the necessary data sheets if these components are to be furnished by the contractor.

Answer 46: Data sheet are provide as part of this amendment (See item 1 and 2 above.)

Question 47: Must we furnish performance and payment bonds?

Answer 47: Please see first page of the SF 1442 block 12a. Yes, performance and payment bonds will be required for each Task Order. Your proposed price for bid Item 0002 (Task Order #1) shall include the costs of these bonds. Bonding amounts are covered by paragraph I.8 Performance and Payment Bonds— Construction FAR 52.228-15.

Question 48: RFP page 17, paragraph H.7: What are we supposed to do with this?

Answer 48: As stated in Paragraph H.7, contractors must fill in the table with the names of the proposed Small Disadvantaged Businesses that they intend to use on this project. This information MUST be submitted with your proposal on 3 Mar 09.

8. All other terms and conditions remain the same.